List of Site-Specific Inputs

AMPRENEW OFFTAKE I LLC (9041) RDF STEVENS LLC (71701)

Tier 1 Simplified CI Calculator for Biomethane from Anaerobic Digestion of Dairy and Swine Manure

The applicant has conducted its analysis of carbon intensity for this pathway using an unmodified version of the Tier 1 Simplified CI Calculator for Biomethane from Anaerobic Digestion of Dairy and Swine Manure.

The standard inputs and parameters specified in CA-GREET3.0 remain unchanged. The input table below specifies the spreadsheet location of the calculator inputs and other parameters that were claimed as confidential business information by the applicant, but it does not disclose the actual value of such inputs and parameters because they are claimed to be confidential business information or trade secret.

This information can also be found in LCA Report. (Locations of cells containing Confidential Business Information are shown, but the actual values of such confidential information are not disclosed):

Parameter	Unit	Cell Location
		e Emissions from Anaerobic
Storage/	Treatment Systems (B	
Livestock Category (L)	Drop Down List	Manure-to-Biogas (LOP Inputs) B7,P7,
Reporting Month	MM/YYYY	Manure-to-Biogas (LOP Inputs) C8-C19; R8-R19
Livestock Population	PL	Manure-to-Biogas (LOP Inputs) D8-D19; R8-R19;
Calendar Days of the Month	Days	Manure-to-Biogas (LOP Inputs) E8-E19; S8-S19:
Number of Reporting Days	RDrm (days)	Manure-to-Biogas (LOP Inputs) F8-F19; T8-T19;
Average Temperature	T2 (°C)	Manure-to-Biogas (LOP Inputs) G8-G19; U8-U19
Fraction of Volatile Solids Sent to	MSAS,L	Manure-to-Biogas (LOP Inputs)
Anaerobic Storage/Treatment System	(fraction)	I8-I19; W8-W19
Retention Time and Drainage	Drop Down List	Manure-to-Biogas (LOP Inputs) K8-K19; Y8-Y19
Carryover from Previous Month	(VSavail-1,AS VSdeg-1,AS) (kg)	Manure-to-Biogas (LOP Inputs) L8; Z8
	P] Baseline Methane E reatment Systems (BE	missions from Non-Anaerobic CH4,nAS)
Non-anaerobic Storage/Treatment Systems	Drop Down List	Manure-to-Biogas (LOP Inputs) B39
Manure Managed in Non-Anaerobic Storage/Treatment System	MSL,nAS, (fraction)	Manure-to-Biogas (LOP Inputs) D39-F39

	LOP] Project Methane E the Biogas Control Syste	Emissions from Venting Events (CH4 em (BCS)
Reporting Month	MM/YYYY	Manure-to-Biogas (LOP Inputs) B52 to B56
Section L4: [Equation 5.8 in LOP]	Project Methane Emission (PECH4,EP)	ons from the BCS Effluent Pond(s)
Fraction of Volatile Solids Sent to BCS System	MSL,BCS (fraction)	Manure-to-Biogas (LOP Inputs) F82 to F83
	Project Methane Emissio (PECH4,nBCS)	ns from Non-BCS Related Sources
L5.1.b Non-anaerobic Storage/Treatment Systems	Manure Managed in Non-BCS (Other) Systems (MSL,S, fraction)	
L5.1.b Non-anaerobic Storage/Treatment Systems	Manure Managed in Non-BCS (Other) Systems (MSL,S, fraction)	
Section P1. Results	from the "Manure-to-Bio	gas (LOP Inputs)" tab
Digester Type	Drop Down List	Avoided Emissions C4
Sec	tion 1. Applicant Informa	ation
Company Name	Name	Biogas-to-RNG C15
Company ID	#	Biogas-to-RNG C16
Facility ID	#	Biogas-to-RNG C17
Digester Location	Digester Location	Biogas-to-RNG C18
CNG Dispensing Station(s) Location	Street, City, State	Biogas-to-RNG F15
LNG Dispensing Station(s) Location	Street, City, State	Biogas-to-RNG F16
Average Annual Temperature	°C	Biogas-to-RNG F20

Section 2. Biomethane Production Data			
2.1 Select Electricity Mix for	Drop Down	Biogas-to-RNG D24	
Biomethane	List		
2.2 Provisional Pathway	Yes or No	Biogas-to-RNG H24	
2.4 Raw Biogas Production	Standard Cubic	Biogas-to-RNG C28 to C32	
100-01-01-01-01-01-01-01-01-01-01-01-01-	Feet @		
	60oF, 1 atm		
2.5 Raw Biogas Production	% Methane	Biogas-to-RNG D28 to D32	
2.6 Raw Biogas Feedstock	Standard Cubic	Biogas-to-RNG E28 to E32	
(at Inlet to cleanup/upgrading)	Feet @		
	60oF, 1 atm		
2.7 Raw Biogas Feedstock	% Methane	Biogas-to-RNG F28 to F32	
(at Inlet to cleanup/upgrading)			
2.8 Baseline energy use -	Gallons, HHV	Biogas-to-RNG G28 to G32	
Diesel (baseline manure transport			
and handling)			
2.10 Grid Electricity (baseline manure	kWh	Biogas-to-RNG I28 to I32	
pumping and solids)	1110	5. 5.10.100.100	
2.11 Grid Electricity (baseline manure	kWh	Biogas-to-RNG J28 to J32	
pumping and solids)			
2.13 Utility Sourced NG (digester	MMBtu, HHV	Biogas-to-RNG L28 to J32	
project)	0.11	B: BNO HOO - HOO	
2.14 Digester energy use (Project) -	Gallons, HHV	Biogas-to-RNG M28 to M32	
Diesel (digester project manure			
transport and handling)	MADO LUNG	B' A BNO NOO A NOO	
2.15 Utility Sourced NG (upgrading	MMBtu, HHV	Biogas-to-RNG N28 to N32	
and compression)	130/1-	Di t- DNG 000 t- 000	
2.18 Upgrading and compression	kWh	Biogas-to-RNG Q28 to Q32	
energy use (Project) - Grid Electricity			
(upgrading and compression)	0/ / /0 /:	Di t- DNO T20 t- T22	
2.21 Upgrading and compression	Standard Cubic	Biogas-to-RNG T28 to T32	
energy use (Project) - Flared gas	Feet @		
including tailgas from upgrading	60oF, 1 atm % Methane	Diagno to DNC 1120 to 1122	
2.22 Upgrading and compression	% ivietnane	Biogas-to-RNG U28 to U32	
energy use (Project) - Flared gas			
including tailgas from upgrading	MMBtu, HHV	Biogas-to-RNG V28 to V32	
2.23 Upgrading and compression energy use (Project) - Biomethane	iviivibtu, mmv	Diogas-IO-KING V20 IO V32	
Injected into Pipeline for			
Transportation Fuel Production			
(metered), (subtract buyback NG and			
Propane if used to boost Btu)			
2.27.a NG pipeline Transmission -	Miles	Biogas-to-RNG Z34	
From upgrading facility to CNG	Willes	510ga3-10-11110 20-1	
station.			
วเลเเบา.			

	Calculator Modifications			
Parameter	Original Value	Modification	Cell Location	
	Avoided Emissi	ons		
Net methane emissions avoided (Calculation)	=C37- C32*COUNTIF('M anure-to-Biogas (LOP Inputs)'!B52:B75, ">0")	=IF((C37- C32*COUNTIF('Manure-to- Biogas (LOP Inputs)'!B52:B75,">0"))<- C40,-C40,C37- C32*COUNTIF('Manure-to- Biogas (LOP Inputs)'!B52:B75,">0"))	C38	
Avoided CO2 diverted from land application	=-(C40- C32*COUNTIF('M anure-to-Biogas (LOP Inputs)'!B52:B75, ">0"))*(44/16)	=IF((-C38=C40),0,-(C40- C32*COUNTIF('Manure-to- Biogas (LOP Inputs)'!B52:B75, ">0"))*(44/16))	G37	
EF Table				
Fugitive Methane from Upgrading Requested by CARB	=2%	=MAX(IFERROR(1- (('Biogas-to- RNG'!V55+'Biogas-to- RNG'!W55+'Biogas-to- RNG'!U55)/('Biogas-to- RNG'!F55)),0),0.02)	EF Table E86	

Section L4: [Equation 5.8 in LOP] Project Methane Emissions from the BCS Effluent Pond(s) (PECH4,EP)			
Volatile Solids to Effluent Ponds	=C82*D82*E82*F82* 0.3		Manure- to-Biogas (LOP Inputs) G82
Volatile Solids to Effluent Ponds	=C82*D82*E82*F82* 0.3		Manure- to-Biogas (LOP Inputs) G83
Section	2: Biomethane Produc	tion Data	
Raw Biogas Production	=lferror(avg(d28:d51) ,0)	=sumproduct(c28:c51, d28:d51)/sum(c28:c51	Biogas-to- RNG D52
Raw Biogas Feedstock (at Inlet to cleanup/upgrading)	=lferror(avg(F28:F51) ,0)	=sumproduct(E28:E51 ,F28:F51)/sum(E28:E5 1)	Biogas-to- RNG F52
Upgrading and compression energy use (Project) - Flared gas including tailgas from upgrading	=lferror(avg(U28:U51),0)	=sumproduct(T28:T51, U28:U51)/sum(T28:T5 1)	Biogas-to- RNG U52
Propane	N55*N57		Biogas-to- RNG E70
2.15 Propane	74654.759650136		Biogas-to- RNG N57
2.5 Biomethane Content (% Methane)	=IFERROR(AVERAG E(D28:D51),0)	=IFERROR(SUMPROD UCT(D28:D51,C28:C5 1)/SUM(C28:C51),0)	Biogas-to- RNG D52
2.7 Biomethane Content (% Methane)	=IFERROR(AVERAG E(F28:F51),0)	=IFERROR(SUMPROD UCT(F28:F51,E28:E51)/SUM(E28:E51),0)	Biogas-to- RNG F52
2.22 Biomethane Content (% Methane in Flared Gas)	=IFERROR(AVERAG E(U28:U51),0)	=IFERROR(SUMPROD UCT(U28:U51,T28:T51)/SUM(T28:T51),0)	Biogas-to- RNG U52

Ac	dditional Tab: Allocation
2.4 Total Raw Biogas Flow, (metered)	Allocation of total raw biogas from District 45 to the upgrading facility
2.5 Biomethane Content (% Methane)	Methane content of total raw biogas from District 45 to the upgrading facility
2.6 Raw Biogas Flow to Upgrading, (metered)	Allocation of gas from District 45 to the upgrading facility
2.7 Biomethane Content (% Methane)	Methane content of raw biogas from District 45 to the upgrading facility
2.18 Grid Electricity (upgrading and compression)	Allocation of grid electricity for District 45 for the upgrading process
2.13 Utility Sourced NG (digester project)	Allocation of natural gas for District 45 for the upgrading process
2.15 Propane	Allocation of propane for District 45 for the upgrading process
2.18 Grid Electricity (upgrading and compression)	Allocation of grid electricity for District 45 for the upgrading process
2.21 Flared gas including tailgas from upgrading (metered biogas)	Allocation of flared gas for District 45 for the upgrading process
2.22 Biomethane Content (% Methane in Flared Gas)	Methane content of biogas from District 45 to the upgrading facility
2.23 Biomethane Injected into Pipeline	Allocation of gas injected into the pipeline for District 45
Adde	ed Tab – Energy Allocation
Tab/Worksheet/Section Name	Description
Upgrading Allocation	Total energy use, quantities of biomethane injected, allocation factor based on biomethane quantities and energy used at digesters and upgrading facilities

List of Site-Specific Inputs

AMPRENEW OFFTAKE I LLC (9041) RDF STEVENS LLC (71701)

Tier 1 Simplified CI Calculator for Biomethane from Anaerobic Digestion of Dairy and Swine Manure

The applicant has conducted its analysis of carbon intensity for this pathway using an unmodified version of the Tier 1 Simplified CI Calculator for Biomethane from Anaerobic Digestion of Dairy and Swine Manure.

The standard inputs and parameters specified in CA-GREET3.0 remain unchanged. The input table below specifies the spreadsheet location of the calculator inputs and other parameters that were claimed as confidential business information by the applicant, but it does not disclose the actual value of such inputs and parameters because they are claimed to be confidential business information or trade secret.

This information can also be found in LCA Report. (Locations of cells containing Confidential Business Information are shown, but the actual values of such confidential information are not disclosed):

Parameter	Unit	Cell Location
	LOP] Baseline Methan Freatment Systems (B	ne Emissions from Anaerobic ECH4,AS)
Livestock Category (L)	Drop Down List	Manure-to-Biogas (LOP Inputs) B7,P7,
Reporting Month	MM/YYYY	Manure-to-Biogas (LOP Inputs) C8-C19; R8-R19
Livestock Population	PL	Manure-to-Biogas (LOP Inputs) D8-D19; R8-R19;
Calendar Days of the Month	Days	Manure-to-Biogas (LOP Inputs) E8-E19; S8-S19:
Number of Reporting Days	RDrm (days)	Manure-to-Biogas (LOP Inputs) F8-F19; T8-T19;
Average Temperature	T2 (°C)	Manure-to-Biogas (LOP Inputs) G8-G19; U8-U19;
Fraction of Volatile Solids Sent to Anaerobic Storage/Treatment System	MSAS,L (fraction)	Manure-to-Biogas (LOP Inputs) I8-I19; W8-W19;
Retention Time and Drainage	Drop Down List	Manure-to-Biogas (LOP Inputs) K8-K19; Y8-Y19;
Carryover from Previous Month	(VSavail-1,AS VSdeg-1,AS) (kg)	Manure-to-Biogas (LOP Inputs) L8; Z8,
	DP] Baseline Methane reatment Systems (BE	Emissions from Non-Anaerobic ECH4,nAS)
Non-anaerobic Storage/Treatment Systems	Drop Down List	Manure-to-Biogas (LOP Inputs) B39
Manure Managed in Non-Anaerobic Storage/Treatment System	MSL,nAS, (fraction)	Manure-to-Biogas (LOP Inputs) D39-F39

	OP] Project Methane Biogas Control Sys	Emissions from Venting Events (CH4 stem (BCS)
Reporting Month	MM/YYYY	Manure-to-Biogas (LOP Inputs) B52 to B56
Section L4: [Equation 5.8 in LOP] Pr	oject Methane Emis (PECH4,EP)	sions from the BCS Effluent Pond(s)
Fraction of Volatile Solids Sent to BCS System	MSL,BCS (fraction)	Manure-to-Biogas (LOP Inputs) F82 to F83

Section L5: [Equation 5.9 in LOP] Project Methane Emissions from Non-BCS Related Sources (PECH4,nBCS)			
L5.1.a Other Anaerobic	Manure Managed in Non-BCS		
Storage/Treatment Systems	(Other) Systems (MSL,S,		
The production of the producti	fraction)		
L5.1.a Other Anaerobic	Manure Managed in Non-BCS		
Storage/Treatment Systems	(Other) Systems (MSL,S,	3	
	fraction)		
L5.1.b Non-anaerobic	Manure Managed in Non-BCS		
Storage/Treatment Systems	(Other) Systems (MSL,S,		
	fraction)		
L5.1.b Non-anaerobic	Manure Managed in Non-BCS		
Storage/Treatment Systems	(Other) Systems (MSL,S,		
	fraction)		
L5.1.b Non-anaerobic	Manure Managed in Non-BCS		
Storage/Treatment Systems	(Other) Systems (MSL,S,		
	fraction)	4	
L5.1.b Non-anaerobic	Manure Managed in Non-BCS		
Storage/Treatment Systems	(Other) Systems (MSL,S, fraction)		
L5.1.b Non-anaerobic	Manure Managed in Non-BCS		
Storage/Treatment Systems	(Other) Systems (MSL,S, fraction)		
L5.1.b Non-anaerobic	Manure Managed in Non-BCS		
Storage/Treatment Systems	(Other) Systems (MSL,S,		
0 11 01 0 11 1	fraction)		
	rom the "Manure-to-Biogas (LO		
Digester Type	Drop Down List	Avoided Emissions C4	
	ion 1. Applicant Information	Diagrap to DNC C45	
Company Name	Name	Biogas-to-RNG C15	
Company ID	# #	Biogas-to-RNG C16	
Facility ID	13 32 3	Biogas-to-RNG C17	
Digester Location	Digester Location	Biogas-to-RNG C18	
CNG Dispensing Station(s) Location	Street, City, State	Biogas-to-RNG F15	
LNG Dispensing Station(s) Location	Street, City, State	Biogas-to-RNG F16	
Average Annual Temperature	°C	Biogas-to-RNG F20	

Section 2. Biomethane Production Data			
2.1 Select Electricity Mix for	Drop Down	Biogas-to-RNG D24	
Biomethane	List	2.8 To 3.4 This Report Process Transaction (Report Process Transaction)	
2.2 Provisional Pathway	Yes or No	Biogas-to-RNG H24	
2.4 Raw Biogas Production	Standard Cubic	Biogas-to-RNG C28 to C32	
	Feet @ 60oF,		
	1 atm		
2.5 Raw Biogas Production	% Methane	Biogas-to-RNG D28 to D32	
2.6 Raw Biogas Feedstock	Standard Cubic	Biogas-to-RNG E28 to E32	
(at Inlet to cleanup/upgrading)	Feet @ 60oF,	2.0940 10 1.1.10 220 10 202	
(at mot to clouriap/apgraumg)	1 atm		
2.7 Raw Biogas Feedstock	% Methane	Biogas-to-RNG F28 to F32	
(at Inlet to cleanup/upgrading)	19111		
2.8 Baseline energy use -	Gallons, HHV	Biogas-to-RNG G28 to G32	
Diesel (baseline manure transport		431	
and handling)			
2.10 Grid Electricity (baseline manure	kWh	Biogas-to-RNG I28 to I32	
pumping and solids)	555,600.00	The state of the s	
2.11 Grid Electricity (baseline manure	kWh	Biogas-to-RNG J28 to J32	
pumping and solids)	OTCHINE AL M		
2.13 Utility Sourced NG (digester	MMBtu, HHV	Biogas-to-RNG L28 to L32	
project)	ACCOUNTS TO SHOULD SHOU	one Come the second beautiful to the contract of the contract	
2.14 Digester energy use (Project) -	Gallons, HHV	Biogas-to-RNG M28 to M32	
Diesel (digester project manure	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	TO THE REPORT OF THE PARTY OF T	
transport and handling)			
2.15 Utility Sourced NG (upgrading	MMBtu, HHV	Biogas-to-RNG N28 to N32	
and compression)	20	s=0	
2.18 Upgrading and compression	kWh	Biogas-to-RNG Q28 to Q32	
energy use (Project) - Grid Electricity		.03	
(upgrading and compression)			
2.21 Upgrading and compression	Standard Cubic	Biogas-to-RNG T28 to T32	
energy use (Project) - Flared gas	Feet @ 60oF,		
including tailgas from upgrading	1 atm	100 C	
2.22 Upgrading and compression	% Methane	Biogas-to-RNG U28 to U32	
energy use (Project) - Flared gas			
including tailgas from upgrading			
2.23 Upgrading and compression	MMBtu, HHV	Biogas-to-RNG V28 to V32	
energy use (Project) - Biomethane			
Injected into Pipeline for			
Transportation Fuel Production			
(metered), (subtract buyback NG and			
Propane if used to boost Btu)			
2.27.a NG pipeline Transmission -	Miles	Biogas-to-RNG Z34	
From upgrading facility to CNG			
station.			

Calculator Modifications			
Parameter	Original	Modification	Cell
	Value		Location
	Avoided Emissio		
Net methane emissions avoided (Calculation)	=C37- C32*COUNTIF ('Manure-to- Biogas (LOP Inputs)'!B52:B 75, ">0")	=IF((C37- C32*COUNTIF('Manur e-to-Biogas (LOP Inputs)'!B52:B75,">0")) <-C40,-C40,C37- C32*COUNTIF('Manur e-to-Biogas (LOP Inputs)'!B52:B75,">0"))	C38
Avoided CO2 diverted from land application	=-(C40- C32*COUNTIF ('Manure-to- Biogas (LOP Inputs)'!B52:B 75, ">0"))*(44/16)	=IF((-C38=C40),0,- (C40- C32*COUNTIF('Manur e-to-Biogas (LOP Inputs)'!B52:B75, ">0"))*(44/16))	G37
	EF Table		
Fugitive Methane from Upgrading Section I.4: (Equation	=2%	=MAX(IFERR OR(1- (('Biogas-to- RNG'!V55+'Bi ogas-to- RNG'!W55+'B iogas-to- RNG'!U55)/('B iogas-to- RNG'!F55)),0) ,0.02) Methane Emissions from	EF Table E86
	S Effluent Pond(s) (I		
Volatile Solids to Effluent Ponds	=C82*D82*E82*F8 2*0.3		Manure- to-Biogas (LOP Inputs) G82
Volatile Solids to Effluent Ponds	=C82*D82*E82*F8 2*0.3		Manure- to-Biogas (LOP Inputs) G83

Section 2: Biomethane Production Data			
Raw Biogas Production	=lferror(avg(d28:d 51) ,0)	=sumproduct(c28:c51, d28:d51)/sum(c28:c51	Biogas-to- RNG D52
Raw Biogas Feedstock (at Inlet to cleanup/upgrading)	=lferror(avg(F28:F 51) ,0)	=sumproduct(E28:E51 ,F28:F51)/sum(E28:E5 1)	Biogas-to- RNG F52
Upgrading and compression energy use (Project) - Flared gas including tailgas from upgrading	=lferror(avg(U28: U51),0)	=sumproduct(T28:T51, U28:U51)/sum(T28:T5 1)	Biogas-to- RNG U52
Propane	N55*N57		Biogas-to- RNG E70
2.15 Propane	74654.759650136		Biogas-to- RNG N57
2.5 Biomethane Content (% Methane)	=IFERROR(AVER AGE(D28:D51),0)	=IFERROR(SUMPRODUC T(D28:D51,C28:C51)/SUM (C28:C51),0)	Biogas-to- RNG D52
2.7 Biomethane Content (% Methane)	=IFERROR(AVER AGE(F28:F51),0)	=IFERROR(SUMPRODUC T(F28:F51,E28:E51)/SUM(E28:E51),0)	Biogas-to- RNG F52
2.22 Biomethane Content (% Methane in Flared Gas)	=IFERROR(AVER AGE(U28:U51),0)	=IFERROR(SUMPRODUC T(U28:U51,T28:T51)/SUM (T28:T51),0)	Biogas-to- RNG U52

Additional Tab: Allocation		
2.4 Total Raw Biogas Flow, (metered)	Allocation of total raw biogas from Riverview to the upgrading facility	
2.5 Biomethane Content (% Methane)	Methane content of total raw biogas from Riverview to the upgrading facility	
2.6 Raw Biogas Flow to Upgrading, (metered)	Allocation of gas from Riverview to the upgrading facility	
2.7 Biomethane Content (% Methane)	Methane content of raw biogas from Riverview to the upgrading facility	
2.18 Grid Electricity (upgrading and compression)	Allocation of grid electricity for Riverview for the upgrading process	
2.13 Utility Sourced NG (digester project)	Allocation of natural gas for Riverview for the upgrading process	
2.15 Propane	Allocation of propane for Riverview for the upgrading process	
2.18 Grid Electricity (upgrading and compression)	Allocation of grid electricity for Riverview for the upgrading process	
2.21 Flared gas including tailgas from upgrading (metered biogas)	Allocation of flared gas for Riverview for the upgrading process	
2.22 Biomethane Content (% Methane in Flared Gas)	Methane content of biogas from Riverview to the upgrading facility	
2.23 Biomethane Injected into Pipeline	Allocation of gas injected into the pipeline for Riverview	

Added Tab – Energy Allocation		
Tab/Worksheet/Section Name	Description	
Upgrading Allocation	Total energy use, quantities of biomethane injected, allocation factor based on biomethane quantities and energy used at digesters and upgrading facilities	

List of Site-Specific Inputs

AMPRENEW OFFTAKE I LLC (9041) RDF STEVENS LLC (71701)

Tier 1 Simplified CI Calculator for Biomethane from Anaerobic Digestion of Dairy and Swine Manure

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Parameter	Unit	Cell Location
Section L1: [Equation 5.3 in	LOP] Baseline Methan	e Emissions from Anaerobic
Storage/	Treatment Systems (B	ECH4,AS)
Livestock Category (L)	Drop Down List	Manure-to-Biogas (LOP Inputs) B7,P7,
Reporting Month	MM/YYYY	Manure-to-Biogas (LOP Inputs) C8-C19; R8-R19
Livestock Population	PL	Manure-to-Biogas (LOP Inputs) D8-D19; R8-R19;
Calendar Days of the Month	Days	Manure-to-Biogas (LOP Inputs) E8-E19; S8-S19:
Number of Reporting Days	RDrm (days)	Manure-to-Biogas (LOP Inputs) F8-F19; T8-T19;
Average Temperature	T2 (°C)	Manure-to-Biogas (LOP Inputs) G8-G19; U8-U19;
Fraction of Volatile Solids Sent to	MSAS,L	Manure-to-Biogas (LOP Inputs)
Anaerobic Storage/Treatment System	(fraction)	I8-I19; W8-W19;
Retention Time and Drainage	Drop Down List	Manure-to-Biogas (LOP Inputs) K8-K19; Y8-Y19;
Carryover from Previous Month	(VSavail-1,AS VSdeg-1,AS) (kg)	Manure-to-Biogas (LOP Inputs) L8; Z8
Section L2: [Equation 5.4 in LOP] Baseline Methane Emissions from Non-Anaerobic Storage/Treatment Systems (BECH4,nAS)		
Non-anaerobic Storage/Treatment Systems	Drop Down List	Manure-to-Biogas (LOP Inputs) B39
Manure Managed in Non-Anaerobic Storage/Treatment System	MSL,nAS, (fraction)	Manure-to-Biogas (LOP Inputs) D39-F39

	OP] Project Methane Biogas Control Sys	Emissions from Venting Events (CH4 stem (BCS)
Reporting Month	MM/YYYY	Manure-to-Biogas (LOP Inputs) B52 to B56
Section L4: [Equation 5.8 in LOP] Pr	oject Methane Emis (PECH4,EP)	sions from the BCS Effluent Pond(s)
Fraction of Volatile Solids Sent to BCS System	MSL,BCS (fraction)	Manure-to-Biogas (LOP Inputs) F82 to F83

Section L5: [Equation 5.9 in LOP] F	Project Methane Emission (PECH4,nBCS)	ons from Non-BCS Related Sources
L5.1.a Other Anaerobic	Manure Managed in	
Storage/Treatment Systems	Non-BCS (Other)	307
- Marie Constant Cons	Systems (MSL,S,	
	fraction)	
L5.1.a Other Anaerobic	Manure Managed in	
Storage/Treatment Systems	Non-BCS (Other)	3
Matter 1965er	Systems (MSL,S,	
	fraction)	
L5.1.b Non-anaerobic	Manure Managed in	
Storage/Treatment Systems	Non-BCS (Other)	
	Systems (MSL,S,	
	fraction)	
L5.1.b Non-anaerobic	Manure Managed in	
Storage/Treatment Systems	Non-BCS (Other)	· · · · · · · · · · · · · · · · · · ·
	Systems (MSL,S,	
	fraction)	<u>.</u>
L5.1.b Non-anaerobic	Manure Managed in	
Storage/Treatment Systems	Non-BCS (Other)	
	Systems (MSL,S,	
	fraction)	
L5.1.b Non-anaerobic	Manure Managed in	
Storage/Treatment Systems	Non-BCS (Other)	
	Systems (MSL,S,	
	fraction)	<u> </u>
L5.1.b Non-anaerobic	Manure Managed in	
Storage/Treatment Systems	Non-BCS (Other)	
	Systems (MSL,S,	
L5.1.b Non-anaerobic	fraction)	-
Control of the contro	Manure Managed in	
Storage/Treatment Systems	Non-BCS (Other)	
	Systems (MSL,S, fraction)	
Section P1 Results f	rom the "Manure-to-Bio	nas (LOP Innuts)" tah
Digester Type	Drop Down List	Avoided Emissions C4
	tion 1. Applicant Informa	
Company Name	Name	Biogas-to-RNG C15
Company ID	#	Biogas-to-RNG C16
Facility ID	#	Biogas-to-RNG C17
Digester Location	Digester Location	Biogas-to-RNG C18
CNG Dispensing Station(s) Location	Street, City, State	Biogas-to-RNG F15
LNG Dispensing Station(s) Location	Street, City, State	Biogas-to-RNG F16
Average Annual Temperature	°C	Biogas-to-RNG F20

Section 2. Biomethane Production Data		
2.1 Select Electricity Mix for Biomethane	Drop Down List	Biogas-to-RNG D24
2.2 Provisional Pathway	Yes or No	Biogas-to-RNG H24
2.4 Raw Biogas Production	Standard Cubic Feet @ 60oF, 1 atm	Biogas-to-RNG C28 to C32
2.5 Raw Biogas Production	% Methane	Biogas-to-RNG D28 to D32
2.6 Raw Biogas Feedstock (at Inlet to cleanup/upgrading)	Standard Cubic Feet @ 60oF, 1 atm	Biogas-to-RNG E28 to E32
2.7 Raw Biogas Feedstock (at Inlet to cleanup/upgrading)	% Methane	Biogas-to-RNG F28 to F32
2.8 Baseline energy use - Diesel (baseline manure transport and handling)	Gallons, HHV	Biogas-to-RNG G28 to G32
2.10 Grid Electricity (baseline manure pumping and solids)	kWh	Biogas-to-RNG I28 to I32
2.11 Grid Electricity (baseline manure pumping and solids)	kWh	Biogas-to-RNG J28 to J32
2.13 Utility Sourced NG (digester project)	MMBtu, HHV	Biogas-to-RNG L28 to L32
2.14 Digester energy use (Project) - Diesel (digester project manure transport and handling)	Gallons, HHV	Biogas-to-RNG M28 to M32
2.15 Utility Sourced NG (upgrading and compression)	MMBtu, HHV	Biogas-to-RNG N28 to N32
2.18 Upgrading and compression energy use (Project) - Grid Electricity (upgrading and compression)	kWh	Biogas-to-RNG Q28 to Q32
2.21 Upgrading and compression energy use (Project) - Flared gas including tailgas from upgrading	Standard Cubic Feet @ 60oF, 1 atm	Biogas-to-RNG T28 to T32
2.22 Upgrading and compression energy use (Project) - Flared gas including tailgas from upgrading	% Methane	Biogas-to-RNG U28 to U32
2.23 Upgrading and compression energy use (Project) - Biomethane Injected into Pipeline for Transportation Fuel Production (metered), (subtract buyback NG and Propane if used to boost Btu)	MMBtu, HHV	Biogas-to-RNG V28 to V32
 2.27.a NG pipeline Transmission - From upgrading facility to CNG station. 	Miles	Biogas-to-RNG Z34

	Calculator N	Modifications	
Parameter	Original Value	Modification	Cell Location
	Avoided	l Emissions	
Net methane emissions avoided (Calculation)	=C37- C32*COUNTIF('Manure- to-Biogas (LOP Inputs)'!B52:B75, ">0")	=IF((C37-C32*COUNTIF('Manure-to-Biogas (LOP Inputs)'!B52:B75,">0"))<-C40,-C40,C37-C32*COUNTIF('Manure-to-Biogas (LOP Inputs)'!B52:B75,">0"))	C38
Avoided CO2 diverted from land application	=-(C40- C32*COUNTIF('Manure- to-Biogas (LOP Inputs)'!B52:B75, ">0"))*(44/16)	=IF((-C38=C40),0,-(C40- C32*COUNTIF('Manure-to-Biogas (LOP Inputs)'!B52:B75, ">0"))*(44/16))	G37
	EF1	lable label	
Fugitive Methane from Upgrading	=2%	=MAX(IFERROR(1- (('Biogas-to- RNG'!V55+'Biogas-to- RNG'!W55+'Biogas-to- RNG'!U55)/('Biogas-to- RNG'!F55)),0),0.02)	EF Table E86

Section L4: [Equation 5.8 in LOP] Project Methane Emissions from the BCS Effluent Pond(s) (PECH4,EP)			
Volatile Solids to Effluent Ponds	=C82*D82*E82*F82* 0.3		Manure- to-Biogas (LOP Inputs) G82
Volatile Solids to Effluent Ponds	=C82*D82*E82*F82* 0.3		Manure- to-Biogas (LOP Inputs) G83
Section	2: Biomethane Produc	tion Data	
Raw Biogas Production	=lferror(avg(d28:d51) ,0)	=sumproduct(c28:c51, d28:d51)/sum(c28:c51	Biogas-to- RNG D52
Raw Biogas Feedstock (at Inlet to cleanup/upgrading)	=lferror(avg(F28:F51) ,0)	=sumproduct(E28:E51 ,F28:F51)/sum(E28:E5 1)	Biogas-to- RNG F52
Upgrading and compression energy use (Project) - Flared gas including tailgas from upgrading	=lferror(avg(U28:U51),0)	=sumproduct(T28:T51, U28:U51)/sum(T28:T5 1)	Biogas-to- RNG U52
Propane	N55*N57		Biogas-to- RNG E70
2.15 Propane	74654.759650136		Biogas-to- RNG N57
2.5 Biomethane Content (% Methane)	=IFERROR(AVERAG E(D28:D51),0)	=IFERROR(SUMPROD UCT(D28:D51,C28:C5 1)/SUM(C28:C51),0)	Biogas-to- RNG D52
2.7 Biomethane Content (% Methane)	=IFERROR(AVERAG E(F28:F51),0)	=IFERROR(SUMPROD UCT(F28:F51,E28:E51)/SUM(E28:E51),0)	Biogas-to- RNG F52
2.22 Biomethane Content (% Methane in Flared Gas)	=IFERROR(AVERAG E(U28:U51),0)	=IFERROR(SUMPROD UCT(U28:U51,T28:T51)/SUM(T28:T51),0)	Biogas-to- RNG U52

Α	dditional Tab: Allocation
2.4 Total Raw Biogas Flow, (metered)	Allocation of total raw biogas from West River to the upgrading facility
2.5 Biomethane Content (% Methane)	Methane content of total raw biogas from West River to the upgrading facility
2.6 Raw Biogas Flow to Upgrading, (metered)	Allocation of gas from West River to the upgrading facility
2.7 Biomethane Content (% Methane)	Methane content of raw biogas from West River to the upgrading facility
2.18 Grid Electricity (upgrading and compression)	Allocation of grid electricity for West River for the upgrading process
2.13 Utility Sourced NG (digester project)	Allocation of natural gas for West River for the upgrading process
2.15 Propane	Allocation of propane for West River for the upgrading process
2.18 Grid Electricity (upgrading and compression)	Allocation of grid electricity for West River for the upgrading process
2.21 Flared gas including tailgas from upgrading (metered biogas)	Allocation of flared gas for West River for the upgrading process
2.22 Biomethane Content (% Methane in Flared Gas)	Methane content of biogas from West River to the upgrading facility
2.23 Biomethane Injected into Pipeline	Allocation of gas injected into the pipeline for West River
Add	led Tab – Energy Allocation
Tab/Worksheet/Section Name	Description
Upgrading Allocation	Total energy use, quantities of biomethane injected, allocation factor based on biomethane quantities and energy used at digesters and upgrading facilities